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Claims

[c1] 1. A liquid fuel rocket engine member (10) comprising:
a load bearing wall structure (11, 14) comprising a plurality of cooling channels (11) for handling a coolant flow, wherein the load bearing wall structure (11,14) comprises a curved wall (14), and wherein a wall of each of said cooling channels is attached to said curved wall; and
each of the cooling channel (11) having a flow guiding surface (15,16,17,19) extending at an angle to the cooling channel axis for providing the axial coolant flow with an added radial directional flow component.

[c2] 2. The liquid fuel rocket engine member as recited in claim 1, further comprising:
the flow guiding surface (15) being incorporated into the channel wall (18).

[c3] 3. The liquid fuel rocket engine member as recited in claim 2, further comprising:
the flow guiding surface comprising a plurality of grooves in the channel wall (18).

[c4] 4. The liquid fuel rocket engine member as recited in

claim 2, further comprising:
the flow guiding surface (15) comprising a plurality of ribs protruding (15) from the channel wall (18).

[c5] 5. The liquid fuel rocket engine member as recited in claim 1, further comprising:
the flow guiding surface (16,17,19) comprising a separate structure inside the cooling channel (11).

[c6] 6. The liquid fuel rocket engine member as recited in claim 5, further comprising:
the structure comprising a helical spiral (19).

[c7] 7. The liquid fuel rocket engine member as recited in claim 5, further comprising:
the structure having a threaded screw (16, 17).

[c8] 8. A method for manufacturing a liquid fuel rocket engine member (10) having a load bearing wall structure (11, 14) comprising a plurality of cooling channels (11) for handling a coolant flow, said method comprising:
shaping a sheet metal surface to provide a flow guiding surface (15);
folding the sheet metal into cooling channels (11); and
forming said wall structure by at least said folded sheet metals by attaching said folded sheet metals to a wall (14) and thereby forming said wall structure.

[c9] 9. The method as recited in claim 8, further comprising: shaping the sheet metal surface by stamping grooves into the surface.

[c10] 10. The method as recited in claim 8, further comprising: shaping the sheet metal surface by stamping to form protruding ribs (15) on the surface.